

SL

MEMORANDUM

March 25, 1963

Subject: Conversation 3/22/63 with John McCarthy

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1. Linc is a rather small computer with a memory of only 1,000 words. However, its special input and output features could make it extremely valuable for handling analog data and also as a means of communication with the larger computers. Among other things the Linc would also have the facility of passing typewriter input through the computer and on out onto magnetic tape. The general view of Linc is that it should be a computer item that could be available as required to any particular laboratory, and McCarthy thinks the Computation Center itself would have some interest in having such a machine. The general conclusion that I reached with him is that we should consult further with Orr Reynolds about our relationships to the Linc program, and perhaps put in an application for a Linc under NASA sponsorship which would be used for our experiments and also would be available, in consultation with the Computation Center, for other experimental trials of its capabilities in other laboratories. The particular uses that I would visualize for a Linc in our own program would be as a general purpose on-line simulator of considerable variety of other hardware that we might otherwise have to build - for example, the delay line and other interpretive routines on our optical readouts. In addition, I am also interested in it as a medium for direct manipulation of mass spectrometer data in order to get a deeper understanding of the usefulness of mass spectrometry as an analytical tool. I said that we would prepare a document outlining our application and have one more go-around with him before we send it in. The Linc is in no sense a substitute for our access to the PDP-1 system, and we should do nothing which would prejudice our being able to help on that. On that score, there is advantageous news in the sense that cost and time sharing with Suppes program is now indicated - in fact, it would be of rather great help to them if we could get going with our own input. If we can generate a chunk of \$20,000 for the image-reading components, this would indeed be very helpful. This would consist, for example, of a purchase from the Digital Equipment Corporation of the following:

- |                        |          |
|------------------------|----------|
| a. Type 30 scope       | \$14,300 |
| b. Light pen           | \$ 1,300 |
| c. Character generator | \$ 4,900 |

Plus tax, this comes to a little over \$20,000. This amount of money would purchase an alternative optical read-in system, which could be tied to the other computers, even if for some reason the PDP-1 program was not realized. The money could be used quite soon and would certainly be spent before the end of the year. All in all, I think we should try if possible to throw this into the pot in a current application.

2. As to Minsky, we really didn't talk much more about that, but it seems that there is nothing quite definite enough about that situation to warrant putting it into our interim supplementary request. We should know before very long what materialization there should be following on.

P.S. I did put to him the question of error checking by return message on the Mars telemetry and I guess he will think some more about it.

cc: E. C. Levinthal